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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,229	02/13/2004	Angela Carati	248896US0XCONT	2506

22850 7590 11/30/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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DANG, THUAN D

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/777,229

**Applicant(s)**

CARATI ET AL.

**Examiner**

Thuan D. Dang

**Art Unit**

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 46-51 and 53-117 is/are pending in the application.
- 4a) Of the above claim(s) 71-115 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 46-51, 53-70, 116, 117 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/13/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of group I (claims 46-51, 53-70, 116-117) in the reply filed on 11/02/2005 is acknowledged. The traversal is on the ground(s) that the examiner failed to meet the burden necessary to sustain the restriction requirement. This is not found persuasive because regardless of whether or not applicant(s) believe no undo burden would exist if all groups are examined together, applicant(s) have not shown that the alternative use for the catalyst proposed by the examiner is not feasible. The requirement is still deemed proper and is therefore made FINAL.

The applicants should note that since claim 117 depends on claim 116, the examiner treated the claim as a process claim.

### ***Specification***

The abstract of the disclosure is objected to because the abstract should be limited to a single paragraph (50-150 words). Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 46-51, 53-70, and 116-117 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 46 is considered as a process for production of aromatic hydrocarbons. However, a step of producing these desired aromatic hydrocarbons is not recited in the claim.

Regarding claims 53, 54, and 56, it is unclear if MFI zeolite would be used for the process. Note that in claim 46, MFI is selected from the Markush selection of zeolites.

The Markush selection of lanthanides should be properly recited.

Regarding claim 63, it is unclear what "the hydrocarbon" is. In other words, the term has no a clear antecedent basis.

Claim 117 should be recited as a process claim or canceled due to the restriction and election.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 46-51, 53-70, and 116-117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (4,891,463) view of Harandi et al (4,854,939).

Chu discloses a process of converting aliphatic hydrocarbons to aromatics by contacting the feed with a catalyst containing ZSM-5, rhenium, and rare earth metals (the abstract; col. 3, lines 35-61).

It appears that Chu does not disclose how much the crystallites having 500 Angstroms are contained in the zeolite (see the entire patent for details). However, Harandi discloses an aromatization catalyst containing crystallites of sizes smaller than 500 Angstroms (the abstract; col. 4, line 15 thru col. 5, lines 40, namely lines 36-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Chu process by using a zeolite as called for by Harandi since it is expected that using any zeolite having any crystallite size would yield similar results.

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The ratio of silicon oxide and the metal oxide of the zeolite can be found on column 3, lines 60-61.

The Chi zeolite is an acid form (col. 2, line 46).

Chu does not disclose specifically which lanthanides are such as lanthanum. However, it is expected that using any rare earth metals for making the Chu catalyst would yield similar results.

The limitation of claim 65 can be found on column 9, lines 44-52 of Chu.

It appears that Chu does not disclose how much olefins are present in the feed. Since both olefins and paraffins can be used as the feed, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Chu process by using any feed containing any amount of olefins would yield similar results.

The condition of temperature, space velocity, and pressure can be found on column 9, lines 55-67 of Chu.

Chu does not disclose how the catalyst is prepared as called for in claims 117. However, the claimed process is a process of use not a process of making the zeolite and it is expected that using any catalyst which are produced by any well-known method (see pages 9 and 10 of the specification of this application) would yield similar results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 571-272-1445. The examiner can normally be reached on Mon-Thu.

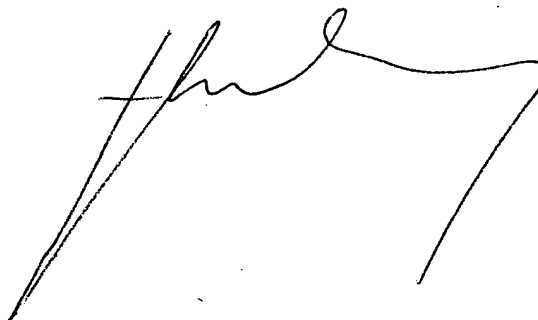
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuan D. Dang  
Primary Examiner  
Art Unit 1764

10777229.20051126

A handwritten signature in black ink, appearing to read 'Thuan D. Dang', is written over the printed name and title.